

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (canceled)

2. (canceled)

3. (canceled)

4. (canceled)

5. (canceled)

6. (canceled)

7. (canceled)

8. (canceled)

9. (canceled)

10. (currently amended) A furnace for melting silica for fusion into a desired shape, said furnace comprising a body having a melting zone comprising a refractory material wall with a protective lining selected from the group consisting of rhenium, osmium, iridium and mixtures thereof and a drawing zone, said melting zone including a gas feed inlet for introducing an oxidizing gas.

11. (currently amended) The furnace of claim 10 wherein said melting zone comprises walls of a the refractory material including and an inner barrier layer.

12. (currently amended) The furnace of claim 11 wherein said barrier layer comprises a material selected from the group consisting of rhenium, osmium, iridium and mixtures thereof.

13. (currently amended) The furnace of claim ~~12~~ 10 wherein said refractory material wall comprises a refractory material selected from the group consisting of tungsten, molybdenum ~~or~~ and mixtures thereof.

14. The furnace of claim 11 wherein said barrier layer provides a sealed chamber within said refractory material walls, said gas feed inlet opening into said sealed chamber.

15. (currently amended) The furnace of claim ~~1~~ 11 wherein said barrier layer is physically separated in at least some areas from said refractory material walls.

16. The furnace of claim 15 including a gas feed inlet for introducing between the barrier layer and the refractory material walls.

17. (currently amended) A fused quartz article produced by a method comprising:

feeding a SiO₂ material into a furnace melting zone comprising a refractory material wall comprising tungsten, molybdenum or mixtures thereof with a protective lining selected from the group consisting of rhenium, osmium, iridium and mixtures thereof;

feeding a gas mixture comprising at least (1) one inert carrier gas comprising a member selected from the group consisting of a hydrogen carrier gas and a noble carrier gas and (2) an oxidizing gas into the protectively lined furnace melting zone;

fusing the SiO₂ material in the protectively lined melting zone of the furnace in the presence of the gas mixture; and

drawing the fused SiO₂ material from the furnace to form the fused quartz article.

according to the method of claim 1.

18. (currently amended) An optical fiber including a sheath ~~comprised of~~
comprising the fused quartz article of claim 17.